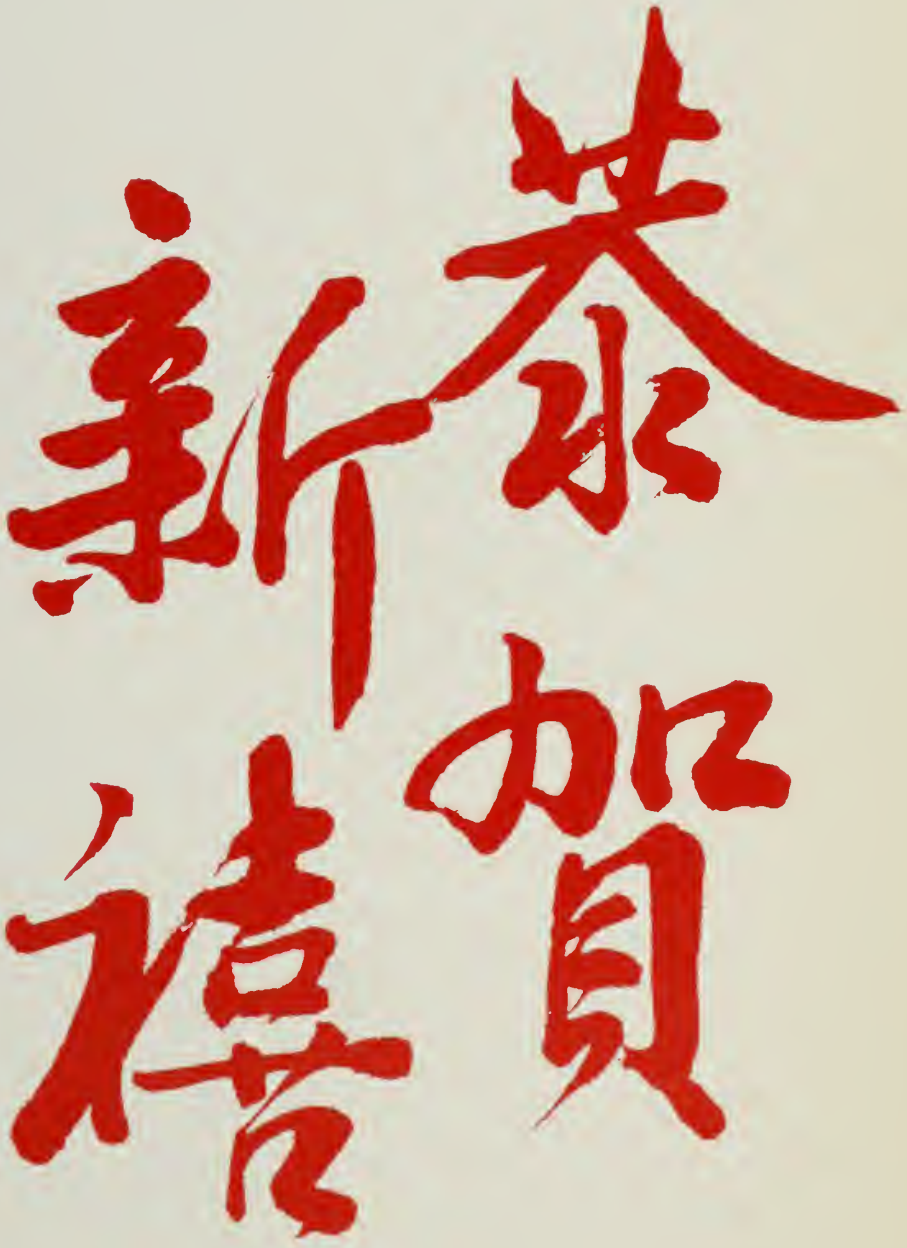
HARVARD
MEDICAL
ALUMNI
BULLETIN

Nov. / Dec. 1973



When cardiac complaints occur in the absence of organic findings, underlying anxiety may be one factor

The influence of anxiety on heart function

Excessive anxiety is one of a combination of factors that may trigger a series of maladaptive functional reactions which can generate further anxiety. Often involved in this vicious circle are some cardiac arrhythmias, paroxysmal supraventricular tachycardia and premature systoles. When these symptoms resemble those associated with actual organic disease, the overanxious patient needs reassurance that they have no

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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of anxiety and tension occurring alone or accompanying various disease states.

Contraindications: Patients with known hypersensitivity to the drug.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions

organic basis and that reduction of excessive anxiety and emotional overreaction would be medically beneficial.

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in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

Supplied: Librium® Capsules containing 5 mg, 10 mg or 25 mg chlordiazepoxide HCl. Libritabs® Tablets containing 5 mg, 10 mg or 25 mg chlordiazepoxide.

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Harvard Medical Alumni Bulletin

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Cover: Chinese caligraphy, beautifully executed by Mr. Yusing Jung, translates to Season's Greetings, our wish for all *Bulletin* readers. For special articles on China, see pages 6-19.

Credits: Christopher Morrow, p. 5; Courtesy of Arnold Katz, pp. 7, 9-11; Bettmann Archive, pp. 13-15; Courtesy of Harvard-Yenching Institute, all caligraphy and p. 17.

Overview

Ebert Reorganizes Administrative Setup

With the naming of two senior associate deans, a new administrative structure has been established at Harvard Medical School. After a year-long study of the structure of his office, Dean Robert H. Ebert has appointed Jack R. Ewalt senior associate dean for clinical affairs and promoted Henry C. Meadow to senior associate dean for administration. Still to be named is a senior associate dean for preclinical affairs.

As senior associate dean for clinical affairs, Dr. Ewalt will relate most closely with department heads and hospital directors on problems concerning academic programs in the clinical area of the School, including direct responsibility for their budgets. Dr. Ewalt will also chair the Clinical Council of the Faculty of Medicine and the Dean's committee meetings at the West Roxbury Veterans Administration Hospital.

In addition to these direct administrative responsibilities, he will also work jointly with his counterpart in the preclinical area to facilitate the work of the Curriculum Committee, the staffing of the Admissions Committee, matters relating to student affairs, the staffing of the Harvard/MIT Program, and the review of large inter-institutional grants.

Dr. Ewalt joined the Faculty of Medicine in 1952 and was appointed Bullard Professor of Psychiatry in 1962. He was named Superintendent of the Massachusetts Mental Health Center in 1958 after completing seven years of service as Commissioner of Mental Health in Massachusetts.

Dr. Ewalt

After 191 Years: Woman Heads HMS Department

Never before has a woman headed a major department at Harvard Medical School. On June 1, 1974, however, that will change when Mary Ellen Avery, M.D. becomes the Thomas Morgan Rotch Professor of Pediatrics and head of the department of pediatrics at the Children's Hospital Medical Center. Simultaneously, she will become physician-in-chief at CHMC.

Dr. Avery will succeed Charles A. Janeway, M.D. as head of the department and physician-in-chief. Dr. Janeway will continue as professor of pediatrics in the Faculty of Medicine.

A recognized leader in the field of disorders of the lung in the newborn, Dr. Avery, with Dr. Jere Mead, professor of physiology in the Harvard School of Public Health, reported in 1959 the discovery of a higher than normal tension in the extracts of lungs of very small premature infants and in infants dying of hyaline membrane disease. Their discovery suggested that hyaline membrane disease is characterized by a deficiency of surfactant, which normally serves to prevent atelectasis. Subsequent studies have confirmed this and their discovery is regarded as the crucial factor in the pathogenesis of hyaline membrane disease.

Dr. Avery comes to Harvard from McGill University where for 5 years she has been professor and chairman of the department of pediatrics and physician-in-chief at Montreal Children's Hospital.

Although Dr. Avery has strong interests in research, her primary concern is the care delivered to children. "I can never envision a time when I will not be involved directly in patient care."

"My ideal," she continued, "would be to involve ambulatory facilities, community resources, and outreach programs so that children might never have to be hospitalized."

A graduate of Wheaton College, Dr. Avery received the M.D. from Johns Hopkins in 1952. In addition to being regarded as a superb teacher and clinician, Dr. Avery is the co-author of *Diseases of the Newborn* and a member

Dr. Avery

of the editorial board of the *American Review of Respiratory Disease*. Her contributions to the scientific press number in excess of 70. She served as president of the Society for Pediatric Research in 1972 and in the same year received the Max Weinstein Award of the United Cerebral Palsy Association. Dr. Avery is a fellow of the American Academy of Arts and Sciences and of the American Academy of Pediatrics.

Epstein Becomes Blumgart Professor

Franklin H. Epstein has been named the Herrman Ludwig Blumgart Professor of Medicine at HMS. Dr. Epstein is also physician-in-chief and head of the department of medicine at Beth Israel Hospital.

As Blumgart Professor and physician-in-chief, Dr. Epstein succeeds Howard H. Hiatt '48, who resigned these posts in July 1972 to become dean of the Harvard School of Public Health.

Nationally and internationally acclaimed for his clinical and basic research in the fields of salt and water metabolism and clinical nephrology, Dr. Epstein joined the Harvard faculty in 1972 as professor and head of the School's department of medicine at Boston City Hospital. Though at BCH for only one year, Dr. Epstein was a major force in moving the department to a broader involvement with the population served by the hospital through outreach activities and through broadened inpatient and outpatient services.

Dr. Epstein is held in high regard as a careful and well-organized administrator and an excellent teacher. Prior to his coming to Harvard, he was professor of medicine and chief of the division of metabolism at Yale University School of Medicine. While at Yale, he was voted the Francis G. Blake Award for outstanding teaching by members of the 4th year class.

A graduate of Brooklyn College, Dr. Epstein received the M.D. from Yale in 1947. He is a former associate editor and now member of the editorial board of the *Journal of Clinical Investigation*. Dr. Epstein holds a Research Career Award from the USPHS. He is a diplomate of the American Board of Internal Medicine and a member of the American Federation of Clinical Investigation, American Society of Clinical Investigation, Endocrine Society, Society of Experimental Biology and Medicine, and the Association of American Physicians.

The Blumgart Professorship was established through contributions from colleagues, patients, hospital trustees, and friends of Dr. Blumgart who, upon retirement as Beth Israel's physician-in-chief in 1962, became professor of medicine, emeritus. For 35 years Dr. Blumgart set an example for some 4,000 students at HMS and BIH as the "compleat physician."

Dr. Epstein

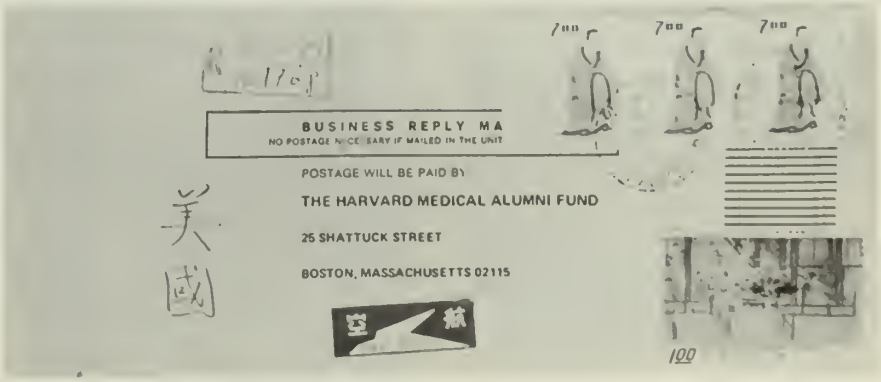
The Gift with the Longest Flight Plan

The envelope contained $10.93 for the *Alumni Bulletin,* along with contributions to the Harvard Medical Alumni Fund and the Hsien Wu Memorial Fund.

Less than five percent of all alumni contribute toward support of the *Bulletin*.

The postage on this envelope alone exceeds the amount that 60 percent of the alumni contribute to the Fund.

Does distance lend the perspective that overcomes the apathy of proximity?



Letters from China

by Arnold M. Katz '56

Letter 20 April Hong Kong
First impressions of Hong Kong: Signs in Chinese remind me of San Francisco's Chinatown on a much larger scale; they drive on the left, and there is an English flavor to Hong Kong — after all, it is a colony: hotel is like something out of *Forsythe Saga*. As I write this a man in silks comes out of the last century bearing a cup of Chinese tea in a fabulous old porcelain cup. What a place — so many people to tip!

Letter 21 April Hong Kong
Had a good night's sleep and a breakfast of surprisingly decent croissants. After a short walk, went back to the hotel and then to Hong Kong Island via the ferry for a briefing at the American Legation. This was mostly useless, a rehash of political conjury into the future of China, something rather impossible as the present is so poorly understood.

Back to the hotel for another briefing by Dr. Dimond. No one knows anything in detail about our trip except we will spend about two days in Canton and then "work our way north to Peking."

So far, my main impression is of wonder. The feeling of the foreign "orient" is not fully developed, Hong Kong having so much English character.

Postcard 22 April Canton
I am at the Canton Airport en route to Shanghai. We left Hong Kong early, crossed into China about noon. Spent two hours at the border, then onto a lovely train, past the ancient terraced rice fields of Canton. Met by a VIP delegation at the station, by private car to the airport where I am now. All is exciting, almost unreal. The greetings here are truly warm and the trip should be fabulous.

This article, based on approximately 25 letters and postcards written to my wife from the People's Republic of China, represents my observations and impressions during one of the most memorable experiences of my life. I entered China on 22 April 1973 with a group of cardiologists.

Postcard 22 April Shanghai
Shanghai. Cool, tree-lined streets. Warm, marvelous greetings at airport. Lovely old hotel. A most thrilling and overwhelming experience. The overt warmth and brilliance of the physicians and interpreters is the most impressive impression.

Letter 22 April Shanghai
Let me tell you more about crossing the border into China. We had to walk about a quarter of a mile and passed by a huge diesel engine loudly blowing its whistle. We were met by a line of green-clad soldiers who took our passports. Another platoon of soldiers trotted by. We are getting the red carpet treatment. Met by large party of physicians, including "Responsible Member" who is the Party official. Then into another lounge. All lounges are large, have high ceilings and soft arm chairs covered in white. They are stacked with books on China, and the Red Book of Mao sayings — I took one free. Tea was served and then the introductions of the Chinese — everyone claps at each name, including the one who is named. Then our group was introduced. More applause. Brief welcoming speeches, emphasizing friendship. The warmth is most apparent — one physician positively glowed.

One gets the impression that even though the new Chinese-American friendship is state approved, there is a deep and genuine reservoir of amity here. People are dressed in simple, baggy clothes. Mostly, but by no means, all blue. Healthy, strong, smiling, friendly people. Though life is obviously austere materially, one senses a personal richness as expressed in smiles, quick and friendly responses, and considerable interest in events. No hostile or suspicious behavior is evident.

This hotel is a grand old place, high ceilings, long halls, old elevators. All signs of opulence are gone, but I imagine it was once luxurious. With the usual baggily dressed personnel, no concierge, no bell hops, the aura is unreal. It is cool here, though in Canton, like Hong Kong, it was hot and muggy. Chinese cars are like my old 1961 Mercedes, small and solid. They drive with the horn, but the streets (which are jammed with people and bikes) belong to the pedestrian — very few cars.

So ends my first day in China.

Letter 23 April Shanghai
While awaiting our 8:30 pickup, let me describe our hotel. Don Effler, the surgeon, put it best: he said this hotel died 20 years ago, but the Chinese didn't let it decay. It is gloomily lit, all elegance faded. Lobby empty. Cavernous corridors empty. Yet all around are beautiful things. The rug in my room is maroon, about $1,500 in Hong Kong. The ash trays, Cloisinee, retail about $5 for the simple ones to $35 for a lovely vase ash tray in the center of the room. Chairs are overstuffed with usual slip covers. The most exciting experience was to go along the river to take pictures. We were immediately surrounded by a large crowd of people — now I know what a two-headed calf feels like. The throng, which gathered in about five minutes, must have numbered 200. Polite, most curious young people. In all ways friendly, no feeling of hostility or of tension.

A word about the severeness of dress. Though everyone wears the same dumpy clothes, it is becoming apparent that some are more equal than others. Some walk, some bicycle, some ride motorbikes, a few ride in cars. Yet one cannot tell at first glance who has "made good" and who has not. The overt distinction by dress is absent here. But as one looks closely, one sees a vast difference in the quality of the Mao jacket, both in terms of the quality of the cloth and the styling. Some worn by our hosts are positively elegant.

This afternoon we visited a "Children's Palace" where selected children, aged 8–14, go once or twice a week for after school activities. The students build

radios, make airplane and ship models, sing, dance, and act. All to develop a socialist conscience, viz, the individual's responsibility to society. Art slanted to anti-imperialism with glorification of Arabs and September 30 movement. Strong emphasis on artistic endeavor, and they certainly have poised and artistic children. Chinese orchestra was superb — violins sounded more than ordinary for the age. Ended at large assembly where about 1,000 children sat for 90 minutes in perfect order. All plays have revolutionary meaning, value of old school bag vs. new ones, girls giving boys haircuts to save money, etc. Surprising were three dances in ethnic costume; Korean, Tibetian, and Shangsi group. A factory worker was helping in one classroom. There was a wonderfully childlike sweetness to the children, like children everywhere. In one class, children as young as eight were practicing acupuncture on each other. Anatomical charts on wall; smell of alcohol in the air.

Interesting is the lack of both litter and litter baskets. People just don't seem to have trash to scatter.

As one learns more about this society, one finds the underlying theme to be the responsibility of the individual to the society. While not our western orientation, it is certainly relevant here, a country of once terrible poverty, ignorance, disease, and starvation. Now one of the greatest nations of the earth. All done by the people themselves, who are fed, clothed, and educated. And this is the terrible enemy about whom we have been told.

Letter 24 April Shanghai
After dinner, went to see the Revolutionary Ballet, story of the "White Haired Lady," a peasant girl who runs away to the mountains where her hair turns white, rescued by People's Liberation Army, led by old boyfriend. Then returns to liberated land, landlord shot, joins army to fight Japanese. Orchestra was Western as was most music, though singing was in nasal Chinese. Dancing seemed mainly classical ballet with those grandiose gestures one sees in pictures — upraised fists, grand welcome to sunrise, etc.

Just got back from witnessing operations performed under acupuncture anesthesia. A surgical repair of VSD — open heart — and two neurosurgical procedures. There is no question but that this is effective, patient wide awake as his chest was being opened, heart cannulated, on bypass. Another lady lay smiling as her inner ear was being dissected to remove an accoustic neurinoma. All we have heard is true; one sees wide awake patients with their skulls opened, talking with the surgeon and anesthetists.

The water here is so terrible — fishy, salty — that it spoils coffee and tea. Once can taste it in the orange soda. Even the shower smells fishy. Only the beer tastes good.

Letter 25 April Shanghai
Took an early morning walk on the Bund, a strip of park along the Whampoa River which I'm told is a branch of the Yangtze. Watched the morning exercises: shadow boxing, a slow ritual

Shadow boxing in Shanghai.

movement of offensive and defensive posturing executed by individuals, by family groups (an elderly couple) and by larger groups of similar age (classes, perhaps). Also saw a type of fencing with arms and hands instead of swords — a slow deliberate dance-like exercise in which the two participants slowly and methodically execute a series of postures. Then sword exercises, sometimes as opponents in a similarly slow, methodically progressing, series of maneuvers, sometimes as a classlike group of five or six. There are acrobatics, with children dressed in lovely but dingy silks performing somersaults, high kicks, and other movements that look different from gymnastics, slower in their execution. Finally, saw three men hitting a badminton bird back and forth. What is very surprising is the lack of balls and ballgames. I did see soccer fields, but no one uses the parks for any ball-type sport.

I think I have seen only one dog since I arrived, and this on a farm near Canton. None in the city. But the streets are always full of people, many of whom have the time to stand around and watch all these exercises. During rush hour, there is steady movement of pedestrians, cyclists and buses — all to a steady din of auto horns which continues morning to night. Yet, there is no sense of rushing, the charade being at the pace, almost of the shadow boxing.

Letter 25 April Shanghai
As we went to the Jui Chin Hospital this morning, we drove through the old sections of Shanghai. Crowded, laundry on every porch. We are quite a curiosity as we drive in our procession of five cars. Stares are open, usually quite friendly. School children applaud from time to time, obviously spontaneously as this behavior is so spotty. The feeling of oppression one hears about in Eastern Europe is totally absent. Instead, everywhere there is great friendliness which certainly seems genuine. At each point of call, RR station, airport, hospital, hotel, we all sit around, Chinese-

American-Chinese, drink tea, and listen to speeches, that all stress Chinese-American friendship. The Chinese know so much about us, our ludicrous policy of the past 20 years succeeded only in closing our own eyes: the Chinese have always been watching us. We are so silly. The concepts of "blue-clad ants" or an Orwellian 1984 seem totally wrong. These people are individuals — disciplined strongly for the needs of society, but individuals none the less. And most we have met medically are most impressive as people.

Just got back from the medical school — a moving experience. Met about 10 students, serious, warm and pleasant. The curriculum seems ideally suited for the needs of China — an intermingling of science, clinical medicine, and patient service. The students come from the country, many from the army. Most will return to their place of origin, others will go wherever they are needed. There is no freedom for the young person to choose where he will go and little opportunity to develop scientifically. To me, of course, these are major drawbacks. In the context of China, however, this seems entirely appropriate. The need is to upgrade medical care, not to develop science. The lack of individual freedom is not oppressive to the young as I see them, because they have never known it. What they are doing, it seems to me, is what they want to do — to serve the people of their country.

The constant reference to the "leadership of Chairman Mao" becomes almost an invocation to the ideals of new China. Once one gets over the natural revulsion to statements like "I am learning in order to serve the people in accord with the thought of Chairman Mao" and look for the real meaning of the statement, it comes out something like: "I am learning in order to better my people."

The students themselves seem like all medical students, interested in their work, chattering over their cadavers, both learning and enjoying their experience. The noise level is high; the students are largely teaching themselves. A great deal of work has been done by the faculty to prepare the material for the students — not surprising since the school was closed about four years to re-orient the faculty. Thus, the objective of medical education is to train doctors to serve the people. This is just what they are doing, albeit at the expense of both individual freedom and scientific excellence. Yet things are not static, and it remains to be seen what will come next.

Letter 26 April Shanghai
Last night Lown, Rudolph and I were discussing how difficult — if not impossible — it will be for us to convey the overwhelming warmth of this experience. These are marvelous people; to be near them makes one happy, to part from them leaves a little hole. A society exists here unlike anything in the west — it is like a large family into which guests such as ourselves are now being welcomed. Yet, objectively, this is so alien to western culture — the difficulty we shall all have is to define how, in this objectively foreign, even threatening, society, we can sense so much personal warmth. The latter is the dominant response by all of us and we all agree that this, not acupuncture anesthesia, is the most exciting aspect of the trip.

Postcard 26 April Shanghai Airport
Awaiting flight to Peking. Let me tell you the saga of the pants! The Daks pants I brought wore through in the knee so I left them in the hotel wastebasket. They sat there for two days until today when I pulled them out and left them with a note saying they were beyond repair and should be discarded. Well, I've just learned that they are in a tailor shop and will meet me in Peking. You simply cannot throw anything away here.

Letter 26 April Peking
I am writing from the Hotel for National Minorities in the heart of Peking. This city feels much different from Shanghai. There is no long row of tall buildings along the river; the main avenue is about a block wide and flanked by low buildings. Even this hotel, which is about 10 stories high, seems small in the overall scope of the broad avenue.

We rode in from the airport with a 26-year-old interpreter. He studied English for seven years, though there was an interruption because of "The Proletariat Cultural Revolution." He entered under the "Revisionist" system, i.e. based on performance on a competitive examination. Now, of course, the system is changed. As at the medical school we saw yesterday, students are sent in from farms, army units, etc. This man said students are now in their teens, about three years younger than when he enrolled. When asked if students selected in this manner were able to learn English as well as he and his comtemporaries, he said the newer group learned better because they were younger and had a better "class consciousness." When asked how enhanced "class consciousness" made it easier to learn English, he said that the students were better motivated. If he is correct, and my experience yesterday at the medical school would tend to support his statement, then this is what is lacking in America's effort to upgrade our poorly educated. For without the intense loyalty to the goals of society, how else can a "culturally deprived" person succeed in the work of higher education? Whatever may be the truth of the Chinese experience, and I suspect there is much truth in what we are being told; our own students often lack deep motivation and are confused as to their role in society. This is certainly not the case here, at least the latter. One's role as a member of this society is drilled into one from early childhood. Motivation, while harder to evaluate, seems high.

Letter 26 April Peking
Our hotel was built by the Russians about 10 years ago, but is as drab as the Shanghai Hotel. The only difference is that in Shanghai we experienced faded elegance: here only faded Russian-style blah.

Honesty

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Today we went to a pharmacy where we found a mixture of modern and traditional remedies, including sliced antlers. I bought three ears — plastic, with acupuncture sites marked out, and an acupuncture mannikin. Went into several stores, a bicycle shop where bikes were all men's style, no gears but with springs. Well made, very heavy about $75.00, quite expensive by local standards. We went into some small side streets, all low houses of grey brick with grey tiles. Housing of more than one story was banned by the Emperors. Some effort is being made to grow trees all through the cities. It is dry and dusty here, Peking being on the edge of the central Asian desert. Streets in one area full of coal and scrap metal, a relic of the Great Leap Forward. Further along, literally hundreds of rolls of heavy steel wire, all over the sides of streets for blocks. Families, we are told, live in a 10 x 10 foot room with common toilet and cooking area. Clearly there remains real poverty here, but now well above the level of misery.

Letter 27 April Peking
I am impressed with the crowds of younger people on the street who are so controlled and self-disciplined. This discipline was particularly evident at the hospital we saw this morning. Lots of sick children, many of whom are minimally symptomatic. Yet all were in bed, no one crying or even looking unhappy. They stay in bed for weeks, so unlike an American children's hospital, which is filled with milling children, full of toys, TV, etc. Here, all is bare, each child has at most one toy, though some were reading. No fancy decorations, no floor full of games. Here the children sit, for weeks or months. No sense of misery.

Had a nice chat with Lown, Rudolph, and Hsu, a young man (about 40) who is both our interpreter and a first-rate cardiologist. We discussed our problem in conveying to our friends at home the sense we have of the great success of the New China. He said (and he is really a philosopher) that it is necessary to match one's subjective feelings with the objective reality — both what we have encountered here and what we will encounter at home. In spite of objective clashes with our reality, as exemplified by the downgrading of academic medicine, this experiment is succeeding and this country, it seems to me, may point the way for the future of mankind.

Last night we had dinner at the Peking Duck, certainly one of the world's great restaurants. Virtually all courses consisted of duck, and parts of the duck I have never eaten before, and will probably never eat again! Best of all was the main course — the duck was like nothing I ever had, and after dinner we found out why when we went to the kitchen. The cook, who must be nearly 60, has cooked about 100,000 ducks a year for 42 years — over 4 million ducks. These are force-fed ducks, killed and eviscerated by way of a hole in the axilla, at the base of one wing. The body of the duck, otherwise intact, is filled with water and hung in an oven at exactly 270°C where it is baked from the outside and boiled from the inside. The oven is heated by date-wood; the cook said they must use a fruitwood — pear is acceptable. The result, obviously, has stood the test of time.

Letter 28 April Peking
Went to Friendship Hospital this morning and was struck by the lack of really sick people — it has finally sunk in that hospitals here are occupied mostly by convalescing patients. Patients do not go home soon after an operation. In cases of acute MI, patients stay in bed for four weeks, and often remain in the hospital as long as 10 weeks.

Our afternoon trip to the arts and crafts factory was most worthwhile. It shattered yet another myth. The government is not destroying the old arts; it is, in fact, preserving them by recruiting and training new artisans. We saw students painting miniature scenes on the inside of glass bottles, the size of perfume bottles, using tiny, right angle brushes. In the room was an old man, about 60, who was fourth generation in this art. There were four young people who were his apprentices. We saw another man making a huge lapis lazuli vase, the size of a soup bowl, but twice as deep. He will work for two years on the vase, which will sell in Hong Kong for $12-15,000.

Letter 28 April Peking
We had a fabulous talk with Dr. George Hatem, who came to China in about 1933 to join the Red Army. He describes Shanghai at that time as a city filled with death, starvation, disease, executions. As a physician, he said, he could do nothing. Then he told of the eradication of narcotic use. Punitive violence was rarely used, mostly it was education of the people, with those who persisted in the use of drugs being held up to ridicule. With the entire society convinced of the evil of drugs, it was easy to identify and neutralize the pusher; and with the abolition of free enterprise, it was not feasible to attempt to turn a profit from dealing in drugs. Similarly in the eradication of prostitution and veneral disease, the main thrust was re-education. First, since many peasants

Central square of Peking. Woman at left had bound feet that have left a permanent deformity.

View from Summer Palace on May Day.

were so poor they couldn't afford a wife, relief from taxes fostered marriage. Second, the pimps and madams were separated from the girls they exploited. Finally, the girls themselves were held in their houses to be re-educated, both to learn new skills and to abhor prostitution. Whenever possible, girls were sent back to their places of origin — this he said required education of those back at the villages to which the girls were sent. The stigma of prostitution was removed by placing the blame on the old society, along with stating that the Liberation had abolished the old society and along with it the causes of prostitution. They used a cadre of women who had been with the Peoples' Liberation Army since the 1930's for this re-education. All this, obviously, has been most effective as they have defeated two of the most terrible problems facing our society.

One conclusion I reach from all this is the need for total involvement of society in the solving of its problems. The piecemeal approach seems to be of little use. Especially important is the abolition of the profit motive, for without this, what reason is there to run counter to society for the purpose of selling narcotics or prostitution — especially when society is actively mobilized against such things? Once again, we see how effective is the planned society, albeit at the expense of personal freedom, personal profit, and what we see as self-expression.

Finally, how could the closing of the Universities be justified in a time when graduates, e.g. physicians, were in such short supply? The answer: physicians turned out in the old system were elitist, and did not serve the people. Hence, there was the need to create a new type of medical education. Brutal and to me abhorrent, from the point of view of my own life, but I suspect quite effective in meeting China's problem. Dr. Hatem was quick to point out that each country's problems are different. I wonder how we will ultimately solve ours. There is much here to be learned.

Letter 29 April Peking

This morning we went to a commune, almost like a county with 46,000 people. Saw small houses, each with two or three pigs, lamb, chickens, in the front yard. The houses are one or two rooms, with a large bed, under which a fire is built to keep people warm in the winter. Each peasant family owns its home and the few items they grow in their front yard. The major effort, of course, goes into the commune's farms. This was a rich commune — per capita production is about $200, with about half going back to the individual as his subsistence. The remainder is distributed in cash to the farmer, less three percent tax, with a portion going into a welfare fund and about 12 percent of the total production being retained as capital to buy equipment, etc. Health care, at a general level, is excellent. The "barefoot doctor" makes house calls, handles minor things; then as problems become more complex, the patient is referred to commune hospital, district hospital, and finally, teaching hospital. The whole system here is opposite ours in priority. The emphasis is on care at the lowest level — as the problem gets more complex, care, by our standards, is worse. No ECG machine for example, in commune hospital. But sitting at the commune hospital was an internist reading a translation of my dad's book! There, in a Chinese peasant commune were copies of ECG's taken at Michael Reese Hospital in Chicago. Small world.

On thinking about the vast difference in orientation between Western and Chinese medicine, I guess one can say that in America, medicine serves primarily the privileged with odds and ends filtering down to the poorer and weaker members of society. In China, medicine now serves mainly the needs of the masses — soldiers, workers, and peasants — with a little filtering up into the realm of what we call modern academic medicine. To look into the future, it seems to me that to achieve all of what we have in terms of sceintific medicine, it will only be a matter of time in China. The essential structure is present, it is only a matter of building on it. In the USA, however, we have no structure to develop medical care for the masses, nor does it seem likely to me that this can be achieved without a major upheaval in medicine. At this moment, the American physician (including myself) serves mainly himself; not the people. And as George Hatem put it, it is impossible for an individual physician to change this — one must become a revolutionary, must put aside medicine as he did, and work with a man like Mao. A revolution such as that which has just occurred in China is almost without precedent in history. Yet even here, the outcome is precarious. We are told that the Cultural Revolution was, in fact, aimed at destroying the growth of a privileged class in China. That aim was certainly achieved, but as the cost of the destruction of much academic excellence. Yet in terms of medicine, where the emphasis is once again on the care of the masses, perhaps it was worthwhile.

My pants reappeared. They interwove a huge hole in the knee, at US cost more than they are worth, then flew them from Shanghai to Peking. I shall call them my "Chinese-American Friendship Pants."

Letter 30 April Peking

Today was a busy day. In the morning we went to the Chinese Institute of Materia Medica, where they are engaged in a detailed study of traditional herb medicines. The visit was most il-

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luminating; in essence they are trying to identify and purify the active principles of various folk medicines. From the point of view of organic chemistry, the work is sophisticated. The physiology is simple, barely adequate, being limited by instrumentation in many places. In terms of clinical investigation, however, they are really very weak. They just don't do good controlled clinical studies; but, for that matter, neither do we.

After dinner we saw two movies put on for us in the hotel. The first was a sort of travelogue with singing and dancing by various Chinese national minorities. The second was another of the Chinese operas, "Daughter of the Red Army." The story was much like that of the "White Haired Lady." One message of the ballet, which reinforced and clarified something we have been seeing since we came here, was the close integration of the army into the country. Soldiers are taught to respect the peasants and workers, with whom they live and work. Actually, soldiers are virtually indistinguishable from the rest of the population, except for a red star on their hat and red tabs on their collars. People in uniform are interspersed in every group, even peasants on the farm. And so many soldiers are with their children. Actually, the army is the people, a fact that stems directly from the precepts of this society.

Letter 1 May Peking
Went this morning to the Summer Palace, where several groups of foreigners and tens of thousands of Chinese were celebrating May Day. We saw groups of school children, teenagers singing, dancing, doing acrobatics, etc. All was bedecked in paper flowers, flags, balloons. The spirit, as always, was warm and friendly. I am struck by the lack of anger in these people — no one pushes, or is in a rush. Much curiosity and good humor.

Yesterday Dr Dimond and I got out of our car in the middle of Peking without having made prior plans to do so. Walked two hours throughout the center, in and out of local shops. It cannot be said that our movements are restricted, or that we are having our scope of activities controlled. We can take photos everywhere but from the windows of airplanes aloft. The only place my camera was taken was in the U.S. Legation in Hong Kong!

Letter 2 May Peking
Today was a day to remember. To see the Great Wall was a thrill like that of seeing the Acropolis for the first time. As we climbed to one of the higher points, we could see the wall snaking as far as the eye could see. To appreciate the sight, you have to realize that the wall does not lie on flat ground, nor does it go in a straight line. It is at the crest of a mountain range, twisting this way and that to follow the high ground, rising and falling as it reaches from peak to peak. This is certainly one of the wonders of mankind.

We had a long talk with a Chinese surgeon who returned to China from the USA in 1957. From him I learned that they do have examinations in medical schools. Students who fail, a small portion, are required to repeat the year. They are helped primarily by fellow students, two or three of whom are assigned to tutor the student in difficulty, working evenings and weekends under faculty supervision.

Letter 3 May Peking
We are preparing to leave for Canton, having ended our visit here on rather a political note, a visit with Kuo-Mo-Jo. He is about 86 and head of the People's Congress. Aside from the usual pleasantries, he told us about China's fear of Russia, of her preparations for nuclear attack from the North. They are honeycombing the ground under their cities with escape tunnels, which accounts for the huge mounds of earth one sees from time to time. I thought the introduction of a political note most out of place, but I'm sure there was a reason.

Letter 3 May Canton
Arrived in Canton after a smooth flight on Ilyushin jet. Left cool, dry, Peking to arrive in what at first felt like the jungles of Hell, 90°, steaming hot and muggy — green rice paddies, four or five layers of clouds, passing showers, green mountains, palm trees, banana trees. Hot. The atmosphere is very different from Peking. Much less formal, much more openness and friendliness. The hotel is staffed by high school and college age kids, instead of middle aged people — much less reserved and they all have had a little English — some speak it quite well. Of course this is the drop off point from Hong Kong and there is a huge trade fair going on.

The Great Wall of China.

Acupuncture in Western Medicine

by Jean A. Curran '21

4 May Canton
Spent the morning walking alone in downtown Canton, along the Pearl River, once the home of the famous pirates of the South China Sea. Watched the steady stream of boat traffic, almost all rowed by hand. Discipline here is noticably less than in Shanghai or Peking — actually saw young teenagers throwing stones at the boats. The streets are not as clean as the other cities — a typical north-south contrast, I think. Along the sides of the streets are shops and little industries. I also visited the Trade Fair, which displayed a variety of highly complex material, including a small computer. The Chinese appear to make available large quantities of well-made goods of the sort they judge essential. The range of such goods, however, is quite small, and of course, there are no competing brands.

5 May Canton
Today is our last day in China. While we are waiting for the train to Hong Kong, let me tell you more about the city of Canton. The accomodations are very poor, but everyone is hard at work, making bicycles on the sidewalks in front of their homes, making charcoal by heating wood. The work is done by both men and women, the latter doing heavy work — welding, hammering. They are building new apartments and most of the work is done by hand. Again, women carry baskets of sand and rocks, working alongside the men, mixing cement, laying bricks.

Even though the people here live almost in squalor, they are obviously well fed and not in rags. They do not look beaten down; indeed, I heard violins being played and at the school nearby, a group of lovely, healthy kids were practicing acrobatics.

It is so clear that this country finds its National prestige in the welfare of its people and not in the "greatness" of its universities or its elite. It is difficult to conceive of China, under present leadership, making war on anyone — it would only take from her struggling people.

It comes as a surprise to most members of the American medical profession to learn that so eminent a figure as Sir William Osler warmly endorsed acupuncture for the relief of lumbago and sciatica.

This was first brought to my attention by Dr. Luis Fernandez-Herlihy of the Lahey Clinic who, in a Letter to the Editor of the *New England Journal of Medicine,* quoted from the Seventh Edition of Osler's authoritative text on the subject.[1]

It is of additional interest that in the first edition of the monumental work, so widely accepted as the basis for the teaching and practice of clinical medicine, in the section entitled, "Muscular Rheumatism (Myalgia) Treatment," Osler stated:

For lumbago acupuncture is, in acute cases, the most efficient treatment. Needles from three to four inches in length (ordinary bonnet-needles, sterilized will do) are thrust into the lumbar muscles at the seat of the pain, and withdrawn after five to ten minutes. In many instances the relief is immediate, and I can corroborate fully the statements of Ringer, who taught me this practice, as to its extraordinary and prompt efficacy in many instances.[2]

Osler also recommended constant current, thermo-cautery, blisters, hot fomentations, and Turkish baths.

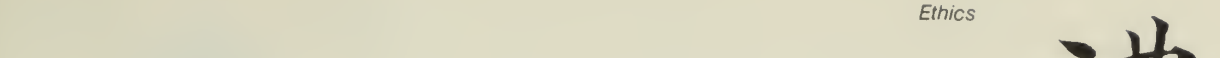
The Ringer referred to, although otherwise unidentified by Osler in his text, obviously must have been Dr. Sydney Ringer whose name has been perpetuated by the physiological salt solution that bears his name. He is mentioned by Harvey Cushing as one of Osler's mentors during the 15 months from 1872–74 he spent in the histology and physiology laboratories at the University Hospital in London. In his letters home, Osler wrote, "From Ringer, Bastian, and Tilbury Fox, I learned too, how attractive out-patient teaching could be made." Ringer impressed him especially, for he added, "Ringer I always felt missed his generation, and suffered from living in advance of it." Further references on subsequent dates concerned the value of Ringer's remarks at post-mortems and lectures on nervous diseases.[3]

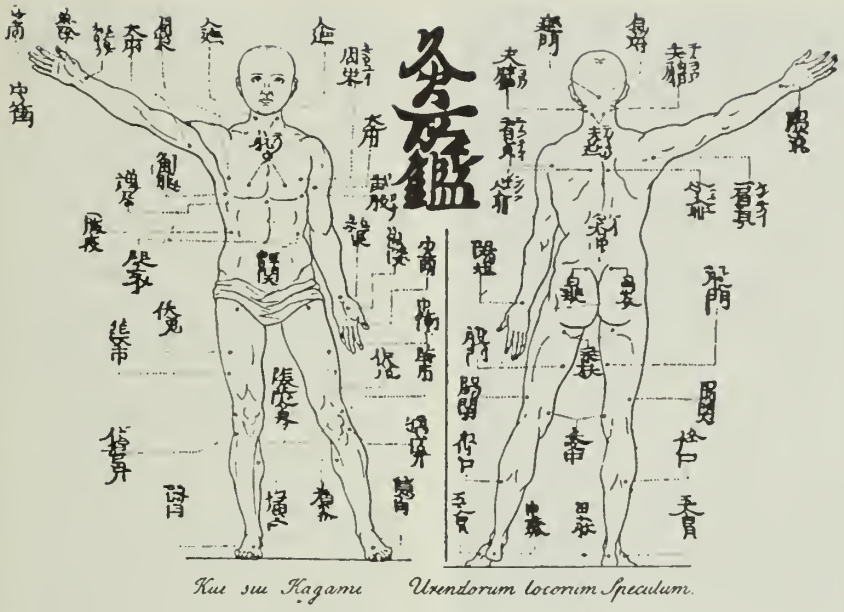
Although reference to Ringer's tutelage in acupuncture was omitted from later editions of Osler's texts, the identical wording of the first edition was otherwise continued until the final one, the 16th, produced by Henry A.Christian in 1947.[4] It would appear to have been considered a generally acceptable form of counter-irritation and physical therapy, for Christian added the use of heat, strapping, infra and untraviolet light.

Of special interest historically is that neither Osler nor Christian made any reference to the oriental origins of acupuncture. Although recommended for acutely painful conditions, no one apparently thought to use the procedure as an anesthetic for surgery. Furthermore, even after it was introduced into Europe in the late 17th century by the Dutch physicians, Ten Rhyne and Kaemfer, it occurred to no one on the European scene that acupuncture might alleviate the suffering of patients undergoing surgery.

On this side of the ocean, Cushing describes Osler's frustration and embarrassment when he tried to apply his acupuncture knowledge upon his return from Europe in 1877. According to Cushing's account:

The patient was none other than old Peter Redpath, the wealthy Montreal sugar refiner, who, being on the "M.G.H." (Montreal General Hospital) Board, had hopes that the newly appointed physician might be able to cure him of an intractable lumbago. He arrived exhausted after mounting the stairs, and in due course they proceeded to treat him by acupuncture, a popular procedure of the day, which consists in thrusting a long needle into the muscles of the small of the back. At each jab the old gentleman is said to have ripped out a string of oaths, and in the end got up and hobbled out, no bet-





Anatomical charts showing acupuncture points.

ter of his pain, this to Osler's great distress, for he had expected to give him immediate relief which, as he said, "meant a million for McGill."[5]

Cushing's comment that acupuncture was "a popular procedure of the day" is interesting evidence of the extension of this established British concept into Canada nearly a century ago.

As to acupuncture's original introduction into Europe, according to Bowers, "Willem Ten Rhyne (1647–) who studied leprosy in Japan, was the first Westerner to describe the techniques and uses of acupuncture and moxibustion."[6] Bowers reports that Ten Rhyne was a scholarly graduate with a doctorate from Leiden who, seven years after leaving Japan in 1683, published *Dissertatio de Arthritide* in which acupuncture was described as very useful in treating illnesses of the belly and stomach as well as illness of the head.

The usual techniques of acupuncture, which is still practiced widely in the Orient has recently gained popularity in Europe. The insertion of the needles in carefully defined points on the surface of the body, to which are said to course twelve hypothetical and undissectable channels, are believed to influence or control every tissue of the body.[7]

In a subsequent publication, Bowers develops more extensively the first introduction of Chinese medicine (Chung-i) into Japan via Korea in 414 A.D., including the therapeutic triad; medicine, acupuncture, and moxibustion, of which acupuncture gained the greatest notoriety,

based on the belief that within the body there are six meridians or channels according to the "yang" and "yin." [principles which must be kept in harmonious balance for the maintenance of health].

From these springs an intricate network of subsidiary channels which connects the organs with 365 points on the skin. For each organ there are a number of skin points scattered across the body, and through the insertion of slender needles into the appropriate skin points, the disorder in the organ will be alleviated.

The needles, which were almost always gold, rarely silver, and never any other metal — were introduced by a twisting motion or by tapping them gently with a hammer.[8]

Acupuncture in the Western World in the 19th Century

Osler's apparent unawarness of the oriental origin of acupuncture may have been due to the assumption that his tutor, Dr. Sydney Ringer, was merely following a well established English therapeutic procedure. This might have been reenforced by a fairly extensive literature on the subject. The Index Catalogue lists 76 articles: German 12; English 7; French 25; Italian 17; Bohemian 1; American 7; Spanish 1; Scotch 3; Austrian 1; Irish 1; and Belgian 1. Among the earliest was a report by Churchill in 1821, "A Treatise on Acupuncture, Being a Description of a Surgical Operation Originally Peculiar to the Japanese and Chinese, and by them Denominated ('Zin-King'), Now Introduced into European Practice with Directions For Its Performance and Cases Illustrating Its Success."[9] The book was dedicated to Astley Cooper, Esq., and in Churchill's words:

I should not have taken the tales which are told of the wonderful cures effected by this operation amongst the original founders of it, as sufficient authority for recommending it. . . . as evidence of its efficacy, had not this efficacy been witnessed by European spectators on its native soil, and at length experienced in our hemisphere: and latterly in our own country. . . . It is of Asiatic origin, and China and Japan peculiarly claim it as their own. . . . No reference whatever to bleeding, and it is rare that even a drop of blood follows either the introduction or withdrawal of the needle.[9]

In an 1825 publication, a series of case reports from Parisian hospitals were introduced by the explanation that, "Acupuncture [was] a remedy borrowed from the Medicine of the Indies . . . . unknown to the Greeks, Romans and Arabians, it was employed from time immemorial in China, the country we regard as the cradle of the world; and that the people of that country transmitted it to the inhabitants of the island of Coree from Japan."[10]

The needles used by the French physicians were of gold, silver, or steel. Oxidation of the needles was noted, also apparently static electrical sparks, during introduction or withdrawal. An ivory-headed hammer was used for the needle puncture, for the duration of a breath or for two to three hours. Chinese concepts of target points do not appear to have been followed; the needles were merely introduced in painful areas, often one to three inches in oblique directions.

In order to demonstrate the harmlessness of needling to vital structures, animal experiments were performed on cats and dogs, with penetration of the brain, heart, and lungs. Two instances of hemocardium were reported, but the investigators concluded that this could have been avoided with finer needles.

Clinical reports on 28 cases studied at the Hotel Dieu and at the St. Louis cited variable results; complete or partial relief, or failure. Diagnoses made on those cared for included; cephalalgia, hemicrania, neuralgia, muscular rheumatism, spontaneous luxation, contusion of the chest with hemoptysis, pleurisy chronic ophthalmia, and periodic hemoptysis.[10]

Among the seven American articles, two may be cited to illustrate that Osler was not alone in his acceptance of the value of acupuncture. One was by A. J. Shaffer, with a report of two cases in the *Atlanta Medical and Surgical Journal* in 1866; the other by W. H. Galt entitled, "The Lost Art of Acupuncture" in the *Louisville Medical News* in 1879.

In the more than 50 years of my personal experiences in practice, including seven years in Mainland China, I do not recall that acupuncture was ever employed or even mentioned, by either American colleagues or Chinese doctors of medicine educated in the U.S. or in the excellent American or European sponsored medical schools in China. This was true, not withstanding our reliance on Osler's *Principles and Practice* textbook, which had the added impact of being translated into Chinese.

Porcelain acupuncture model.

It must be emphasized that since there were no organized schools of traditional medicine in China until after 1949, the art and practice of pulse diagnosis, herbal therapy, acupuncture, moxibustion, cupping, and other externally applied methods were being taught by very informal apprenticeships, with some surprising resemblances to the preceptorship system in the American colonies until nearly the end of the 18th century. Although the great majority of the Chinese population were dependent on old style practitioners, I never saw acupuncture actually performed from 1924–1930 when I was practicing general medicine and surgery in the interior of northwest China. We simply ignored it, and herbal medicine, as out-moded, to inevitably be replaced by modern scientific medicine, as soon as there were enough graduates of the growing number of medical schools.

Occasional evidences of acupuncture were observed in patients previously treated by local practitioners, who then sought relief in the numerous mission hospitals in both urban and rural areas. Usually we saw three puncture wounds on the flexor surface of the forearm; wrists, mid-point, and near the elbow, the explanation being that it was for relief of abdominal pain. (A modern version was the treatment given James Reston in Peking after a skillful appendectomy under conventional anesthesia. He was given the same forearm needling on the first day post-operative for the relief of abdominal discomfort).

But my impression in the 1920's was of crude techniques with needles of apparently large caliber, and judging by the holes, made of rough surfaced material. Of course, sterilization was not observed. In one instance, a suppurative elbow joint was created due to such needling. A rare opportunity to perform an autopsy on a patient who died from a neglected strangulated gangrenous hernia, revealed three puncture holes in the distended ilium, apparently due to needling. Hence, it is not surprising that we hospital-oriented physicians, both Chinese and foreign, looked upon acupuncture as a crude, irrational concept. Although productive research was done at the superb Peking Union Medical College on Chinese medicinal herbs, with, for example, the isolation of ephedrin from the Chinese herb "ma huang," I do not recall any investigation of acupuncture during those years.

Twelve years ago I had the unique opportunity* to observe the working of the School of Chinese Medicine in Seoul, the only educational institution devoted to traditional Chinese medicine I encountered in Asia. It was duly accredited by the Korean government because the majority of the Korean population, especially in rural areas, were still largely dependent on this form of oriental medicine derived from China perhaps two millennia ago. Western-

* Dr Curran was a consultant to the Agency for International Development (AID) and the United States Overseas Mission (USOM) in connection with the University of Minnesota to evaluate the rehabilitation of Seoul National University and other university medical centers in Korea, and subsequently he served as a consultant to visit Yonsei University Medical Center for the China Medical Board of New York, Inc.

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educated doctors were largely concentrated in the cities. The Dean cordially explained the range of his curriculum, disclosing that it had been modified by advances in modern concepts to the extent of introducing basic sciences in the first years; anatomy, physiology, chemistry, bacteriology, and pathology. Since I was aware that no major surgery was included in Chinese medicine, I asked how bacteriology was applied to aseptic practice. He explained smilingly, "Instead of the way acupuncture was done when you were in China, by putting the needles in the mouth to lubricate them with saliva, we now boil them!"

He told us that there was continued stress on the all-important concept of the yang and yin principles: the doctrine of the essentiality of balance and harmony between the individual and all internal and external factors and qualities of the universe, including environmental relationships, if health is to be sustained. Acupuncture has an important role in Chinese medicine in adjusting these relationships in the patient if they become deranged. As to harmony with the environment, the Dean commented, "We far pre-dated you in your modern discovery of homeostasis."

Acupuncture in America

Apparently acupuncture remained a lost art in the 20th century as far as American medicine was concerned, except for Travell and co-workers at Cornell. In the early 1940's, Dr. Janet Travell, famous for her successful treatment of former President John F. Kennedy's back and leg disabilities, had studied relief of myofacial trigger areas of pain in association with Dr. Audrie L. Bobb, a former resident at the Sea View Hospital. They tested the analgesic effects of injections of the trigger areas with procaine-saline solution, and with dry needle multiple punctures, all with definite relief. In one patient, an elderly woman bedridden with a severe ankle sprain, Dr. Travell reported that "we hit each trigger area with a hypodermic needle attached to an empty syringe: we used a rapid pepper-

Trong Jin Tchou drawing, 1031 A.D.

ing motion in the same manner as when injecting a solution. That dry needling worked too." She concluded that, "The myofacial trigger area was clearly a link in a self-sustaining cycle of noxious nerve impulses between the central nervous system and the peripheral structures."

"By means of electromyography," she reported, "we did eventually show that the trigger area is in a high frequency electrically discharging focus. Its firing when amplified sounds like the barrage of a machine gun."[11] Dr. Travell appears to have been one of the very few aware of Osler's endorsement.

Attracted by Dr. Travell's experiments with dry needling, foreign visitors came to her laboratory at Cornell. One from Indochina was astonished to learn that selection of puncture points was by hitting trigger areas after examining the patient. He protested that this was not necessary and showed her elaborate charts, with beautifully drawn plates, indicating the points decided upon by Chinese healers thousands of years ago.

Dr. Travell's conclusions were that procaine 0.5 percent in physiological solution injections were definitely superior in giving relief of pain over saline solutions or dry needling.

The amazing reports of successful use of acupuncture to produce anesthesia for a variety of major operations and for relief of painful disabilities, which are brought back from Mainland China by leading American medical specialists as well as lay observers, have aroused much interest. The closing, because it was staffed by unlicensed practitioners, of an acupuncture treatment clinic in New York's Chinatown to which a growing number of American patients were attracted, has aroused many questions as to recognized sponsorship and acceptability of the procedure.

An American committee of experts on anesthesia, neurology, neurophysiology, and psychology met on July 17, 1972 at the National Institutes of Health under the chairmanship of Dr. John J. Bonica of the University of Washington School of Medicine. On its recommendation, Dr. Robert Q. Marston announced:[12]

> After considering the many suggested uses of acupuncture, the Committee recommended that the most valuable first approach in the United States would be studies on the method's use for surgical anesthesia and for the alleviation of certain chronic pain syndromes.

Meanwhile, an American Society of Chinese Medicine, composed of Chinese and American physicians, was organized in February 1972 under the presidency of Dr. Frederick F. Kao, professor of physiology at the State University of New York, Downstate Medical Center. Dr. Kao is a graduate of the West China University College of Medicine at Chengtu, Szechwan, in the years before the Revolution, and so has special grounding in both Western and Chinese medical concepts.

The announced intention of the Society is to make a comprehensive study of herb medicine, pulse diagnosis, moxibustion and respiration, massage therapy, and, to "separate acupuncture from quackupuncture."[13]

Journey Between Two Homes

by Constance Shen Pittman '55

Departure of the Goddess

Last Easter I went home to see my father in Mainland China. After months of waiting, my visa came in the mail rather suddenly, after I had already given up any expectation of going this year. My schedule was such that I had to either make the trip right away or give it up. Therefore, within one week I conned a substitute to take my attending rounds, found a housekeeper, bought a through ticket to Shanghai, and was on my way to the National Airport. It was a lovely spring day in Washington. Jim insisted on bringing the children to see me off. They were all very quiet. Even the children sensed that it was not just another jaunt for me to attend a medical meeting. Without understanding it, they were a little frightened by the growing emotional pull my destination had on me as my departure approached. "You are coming back, aren't you?" Jim asked half in jest. I just giggled — it was too hard to answer. Jim and the boys started to laugh too. Afterwards we all felt a lot better and just held hands.

If I had kept my early experiences in China isolated like a prior incarnated life, it was too late now to share it with my Caucasian husband and children. I remembered the Chinese myth about a goddess falling in love with a farm boy. They lived happily together a long time and had two children. Then there came a day when the goddess had to leave her husband and her children and return to heaven under the command of her father. The farmer was unable to catch up with her in his belated pursuit. Finally, the forlorn state of the farmer and his children moved the gods to grant them an annual reunion with the goddess. Each year in the evening on the seventh day of the seventh month, the goddess returns to her earthly family on a bridge made of birds and moonbeams.

I am Chinese by heritage. I lived in China until I nearly finished my secondary education, but I have been away from China and have not seen my family for over 27 years. During this period, a lot has happened to Mainland China and to my own family. My mother, a Wellesley graduate, died. Of my two brothers, my only siblings, one is dead and the other one, an electronic engineer, is now assigned to repair radios in a Peking suburb. My father, who had been the Dean of Tsing Hua University in Peking has just been rehabilitated after spending a few years in a labor camp. He has become very frail and totally blind. Therefore, I was merely carrying out my filial duty to spend two weeks with my father in his last days. I did not go to the People's Republic of China as a wide-eyed sympathizer of the progressive politics, not even as a chauvinistic admirer of the Chinese culture. I traveled as a private citizen. My destination was Peking only. I had no sponsoring organization and did not carry any letter of introduction. As it turned out, this was a serious oversight. Since I did not contact the Overseas Chinese Travel Agency, no one expected me in China. As in other parts of the old world, the doorman is still ubiquitous in the People's Republic of China. Without prior arrangements one can never pass the doorman anywhere, be it a hospital, a university, or a restaurant. They even have coined a new word "Ahn-Pi" in their speech, meaning to arrange. Luckily, the Chinese memory is long. Through my family connections I was able to see the sights and visit with the senior faculty members of both Peking University and Tsing Hua University. Dr. Grey Dimond and his delegation from the American College of Cardiology, who happened to be in China during my visit, generously allowed me to join them during their tours to the health facilities in and around Peking.

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The Rip Van Winkle Syndrome

In China, I did not expect to find any remains of the privileged and Westernized lifestyle that I was accustomed to as a child. I refreshed my memory of the sights of Peking during President Nixon's trip there. Still I was not prepared for the cultural shock I encountered — the Rip Van Winkle syndrome.

The material progress is obvious, just as all the journalistic reports had stated. The Peking streets are clean. Everyone on the street looks well nourished and well dressed. There is no gross example of malnutrition or obesity among the throngs of people on the streets, although a few of the older and more senior officials I saw during the May Day Celebration did show a spreading waistline. I left China in 1946, immediately following the end of World War II, when China did not even build bicycles. In 1973, I flew in Chinese-built airplanes and rode in Chinese-built automobiles. They build a neat little passenger car just like a Mercedes Benz called a "Shanghai."In the hospital laboratories, I noticed that refrigerators were made in Tien-Tsing, and photonmeters were made in Shanghai. Prior to my trip, my brother had tried to obtain a wheelchair for my father without success, since hospitals and health clinics have a higher priority for these scarce items. However, armed with a letter of introduction from the travel agency, I was able to get one during my first visit to a store that sold medical equipment. It was made of stainless steel instead of aluminum but it was very well made. The price was above twice the cost of a small wheelchair sold in the U.S.A. On the other hand, a light model of sphygmomanometer for the barefoot doctors cost only seven U.S. dollars. In the exhibit area of the store, Chinese-made EKG machines, fluoroscopes, and sterilizers stood side by side with the electric stimulator for acupuncture.

Loyalty

On the cultural side, the achievements are also easy to recite and tabulate — the ambitious restoration of the Forbidden City, the excavation of the Ming Tombs. The mushrooming factories have recruited aging masters to teach teenagers the ancient crafts of jade and ivory carving, bottle painting, and even the art of making dolls with dough. During the May Day Celebration, I saw thousands of school children dancing in colorful ethnic costumes and heard, for the first time, the sounds of ancient Chinese musical instruments taking parts in an orchestra. There were several immense outdoor and indoor sports stadiums around Peking where I saw spirited ball games and bicycle races.

Impressive as they are, these achievements in material progress and cultural rebirth are immediately dwarfed when compared to the changes wrought in the mind of the 800 million Chinese people during the last two-and-a-half decades. The changes in the Chinese social structure and mental attitudes are thorough and nearly total, testifying to the genius of Chairman Mao, who overcame the intrepid Chinese culture where both the Mongol warrior and the Manchu mandarin had failed.

Modern terminology and political jargon have entered their speech. Writing has undergone a profound change in both the style of the prose and the configuration of the characters. Many of the characters are simplified to such a degree that they looked familiar but incomprehensible to me — not unlike my reaction to reading a Japanese medical journal. Young people are listened to and given responsibilities. Nearly all able-bodied women work, holding senior positions in medicine or performing hard labor in the factories or on the farms. The support for the government appeared genuine. People from different walks of life and different levels of society believe that their government is a government for the people, if not entirely by the people. I only listened to them quietly, as I was in China during the peak of the Watergate crisis.

Tea is no longer the drink in China; the common people drink hot water. Excellent green tea is still served to foreign guests. Commoner tea can still be purchased in stores for the older people who just could not learn to forego tea. The good tea is reserved for export to gain foreign exchange. In Peking, it was available only in special stores for foreign guests and overseas Chinese.

Family planning is widely practiced. In Peking, the two-child family is accepted as the ideal size. To have more than two children invariably caused the mother to apologize for her error during our initial greeting.

All levels and segments of the Chinese society are organized into small groups that meet weekly. These sessions are called "shu-shi," meaning to learn and to practice. They serve to explain and implement the official policies, to change and mold the social thoughts and behavior, and to exert peer pressure on those who are slow to give up the old ways of life. Talking to my childhood friends, I occasionally caught glimpses of dissatisfaction in the form of ironic jokes and laughter, but sooner or later the style and substance of their conversation reminded me of the editorial page of the official daily newspaper. Then I suffered attacks of the Rip Van Winkle syndrome. There was no doubt the whole Chinese society is activated and motivated to produce. The incidence of hypertension also appeared to be on the rise.

The Successful Solution

At the time of liberation, patient care in the Western style was in the hands of a few hundred foreign and Chinese physicians, many of whom soon left China. The majority of Chinese used the traditional medicine that was dying slowly for want of official support, or they managed without any medical care. When the Russians suddenly pulled out, all the ambitious schemes were dislocated. It was obvious that China needed not a handful of specialists, but hundreds of thousands of men who could carry out the basic medical care of its 800 million people. During the last decade, China trained just that many. Basic medical care became available in urban neighborhoods and rural communities alike, in many instances around the clock.

The successful solution of their medical needs has won for the Chinese profound admiration from the West. The innovative use of the ancient art of acupuncture has interested the neurophysiologists, the clinicians, and the mercenary alike. My hotel, which was assigned to the overseas Chinese only, had many guests who traveled there just for the cheap but good medical care offered by the Peking hospitals.

First of all, health was a top item of the Chinese national priority, next in importance to food and housing. The concept of health preservation has a long and strong tradition in the Chinese culture. It was practiced by the scholars and hermits in their pursuit of spiritual goals. In the old days, the physicians were often rewarded when the clients were not ill. Through its political network, the present government devotes a great deal of effort instructing the public on diet, physical education, and public health measures. Many of the endemic diseases were attacked on a community basis under the leadership of their political workers. For instance, a discovery of schistosomiasis would cause the entire village to go into the fields to kill snails, burn weeds, and build an entirely new irrigation system. Kala-azar, and syphilis were eliminated in a similar fashion. There is little water-borne disease or veneral disease in China now.

Second, innovation was the solution to the shortage of medical resources and manpower. The use of lay people and native medicine is both daring and imaginative. Anyone can heal and prescribe without a license. Medicine can be purchased over the counter like any other merchandise. Some drugs are scarce, so pharmacies hang a chart at

Humility

the door to list the alternate herbs that contain the same active ingredient as the no longer available medicine. Hundreds of thousands of barefoot doctors are trained to staff the clinics in the communes and factories and to serve as physicians' aids in the larger health centers.

The barefoot doctors are picked from the local community. After a secondary education, they are given a three-month course of basic training. The teaching materials used in the northern and southern sections of the country are different since the prevalent medical problems are different. The emphasis is on diagnosis by history and symptoms and on dosages of medication. Once a week these barefoot doctors rotate and take part in the nonmedical duties of the commune or the factory. According to the community needs, some of these barefoot doctors are chosen to receive further training, up to two years to become a surgeon's assistant, or just another few months to become proficient in the care of tuberculosis, infectious hepatitis, or whatever. These young doctors are supported by a large number of lay people in carrying out their task. For instance, in the area of public health, each production team of 150–500 people elects its own member to be responsible for the sanitation of the drinking water and the outhouses.

During a tour of a suburban commune, I visited a health clinic. It was a three-room structure of brick located in a spacious compound. The middle room was a waiting room. An examination room and a pharmacy occupied the end rooms. There were five barefoot doctors there, young and friendly. The leader was a 23-year-old young woman who had been working at the clinic for five years. They examine patients, initiate medication, and perform minor procedures, such as suturing lacerations, and extracting teeth; of course, they also perform acupuncture. They do not do any laboratory studies, not even blood counts. Those patients who require more sophisticated care or laboratory studies are referred to the commune hospital. The pharmacy was well stocked with both Western and native herbal medicine. I picked up a bottle of phenylbutazone tablets and asked about their use. I was told that the tablets were given for complaints of arthritis in a dosage of one tablet three to four times daily up to one week.

The commune hospital I visited was a much grander and more elegant facility which had a 30-bed capacity and a large outpatient clinic. The surgeon had just rotated there for one year from a municipal hospital. The internist was serving under a similar situation. All the doctors in the higher level district or municipal hospitals must fulfill such rotations periodically at a remote factory or commune hospital. This rotation serves as a two-way system of continuing education. It broadens the experience of the specialists in a big city, and at the same time, allows the local barefoot doctors to learn more sophisticated medicine under a preceptor system without ever leaving the community. As I entered the surgeon's suite, he and his assistant, a barefoot doctor, were reading a standard text of neuroanatomy together. The commune hospital also boasted a modern x-ray room. In the dental office there was a new dental chair. On a side table, I observed several half-completed dentures.

Finally, the other factor in the equation of this success story is probably the very structure and organization of Chinese medicine. Chinese medicine is supervised by the Ministry of Health and the Chinese Medical Society. Their functions appear to be those of correlating data and formulating national policies. The Ministry of Health provides the policy guidance and moral support, while the finance and implementation of actual medical care are strictly the responsibilities of the local community. The governing body of the local community makes the decision on its medical needs. It must use the money from its communal surplus to build the needed clinics and hospitals and to train and pay the health workers. Under the superstructure of the Ministry of Health, there is a strict table of organization of provincial hospitals, municipal hospitals, and district hospitals, all the way down to the health clinics in the urban neighborhoods, factories, or communes. Each supervising hospital is completely responsible for the education and patient care in the health facilities below it. Each health facility has the privilege to refer its patients for more sophisticated diagnostic testing and treatment or to send its workers for more advanced training in a higher level hospital.

There is an interesting fluidity in the health fields in China. Medical books on every subject are plentiful and cheap. Laymen like my brother read them regularly for interest. All facets of medicine are presently being re-examined, be it Western or traditional. Pharmacological research of excellent quality is carried out at the Research Institute of Materia Medica. The active ingredient in many ancient herbs like *Pueraria Lobata, Scopolia Tangutica* and Securine is purified, synthesized and tried for new indications. Among the health workers there is no rigid rank or group. A nurse can be trained to be a doctor; a barefoot doctor can be trained to be either a nurse or a doctor. The individual is encouraged to work as a team member rather than a self-seeking scientist. Many of the scientific publications only bear the name of the hospital or institute rather than listing the names of the individual authors.

Now that I am back in the security of an indulgent family and the familiar medical routine, I cannot help feeling nostalgic for the China that is no longer home for me. I miss the catalytic atmosphere of total dedication, daring innovation, and utter confidence in the future. As everyone in the United States is concerned over the rising costs of medical care and the widening gap of medical needs and resources, I wish to commend this amazing success story of Chinese medicine to your wise thoughts.

The Program in Biosocial Medicine

In his address to the Alumni Association in 1972 Dean Robert Ebert acknowledged that ". . . the greatest challenge which faces Harvard Medical School during the next decade is the development of programs for the education of physicians who will be concerned with both the teaching and practice of primary care." In the September 1973 issue of Scientific American *Dr. Ebert predicted that ". . . training opportunities for primary-care physicians will gain predominance over programs for specialists." This article summarizes a proposal for a Harvard Program in Biosocial Medicine designed to meet the current challenges and future developments in medical education and health care delivery.*

Introduction

Debate concerning the health care delivery system revolves around one central fact — the health of the American public is not being maintained as it could or should be. For impoverished communities the desperate need for high-quality, comprehensive and accessible health care is presently an issue of survival. On the other hand, the privileged minority that can afford present costs is increasingly disenchanted with the product of a health care industry that consumes 70 billion dollars a year. Briefly stated, there is a health care crisis and most everyone is dissatisfied because of it. The evidence is overwhelming. Over the past eight years, at least six major commission reports and policy studies have analyzed the health needs of the nation as well as the status of health services and medical education. Repeatedly, the needs are cited as being great and the efforts to meet them deficient.

It is not our purpose to labor over the inadequacies of the health care system, for these have been well documented. Rather, we propose a course of action that will begin to deal with the health care crisis at the level of medical education. We believe that health and health services delivery can be greatly improved by providing medical education aimed at primary care and community medicine, with concurrent redistribution and development of health care delivery resources. This belief is based on our personal experiences, both in medically deprived communities and during our medical education at Harvard, as well as on careful study of the current literature.

We are aware that our proposal adds yet another possible solution to an increasingly confusing controversy. To minimize confusion and maintain a sound perspective, two basic facts should be kept in mind. First, no proposed solution is a guaranteed cure, especially considering the multi-faceted nature of the problem. Second, some of the proposed solutions are testable, thus introducing the possibility of objective evaluation. In effect, this article suggests an experiment whose ultimate goal is the improvement of health care services and delivery for all members of society.

The hypothesis to be tested is: Physicians who will deliver primary care and improve community health, by intervening against social and biological factors that impair health, will be better trained to do so by the following proposed program than by standard medical curricula. The protocol is entitled the Program in Biosocial Medicine, and we propose to conduct the experiment at Harvard.

Objectives

Undergraduate medical education today is rigorously built upon the biological sciences and taught largely within the confines of classrooms and urban academic teaching hospitals. The student becomes proficient at delivering acute medical care in this setting, but is taught little about ambulatory medicine or the public health problems of the community. Our working hypothesis is that a significant variety of physicians must be involved in developing and delivering medical services from the full-time university research scientist to the full-time community primary care practitioner. Presently, many feel that much of the improvement in medical care delivery will derive from those physicians whose activities are biosocial in nature.

These are physicians trained in public health, community medicine, psychiatry, social medicine, and health planning and administration. The Program in Biosocial Medicine includes a curriculum designed to provide suitable training for these types of physicians. In summary then, the Program will have as its central goal the provision of the best undergraduate medical training for:

a new type of physician whom we call the Specialist in Community Medicine or Community Physician

physicians in the fields of public health, psychiatry, and social medicine who will deal with issues relating to primary care and community health

traditional medical specialists (e.g. internists, pediatricians) who will deliver primary care in a community setting.

The Community Physician

Since the concept of the community physician is somewhat novel, and since s/he would be one of the major products of the Program in Biosocial Medicine, a definition is appropriate.

In the first place, a community can be defined as any group of people with common economic, ethnic and/or geo-

by Denice Aguirre Johnston '76, Derek Kerr '75, Reed E. Pyeritz '75, Sylvestre Quevedo-Grado '75, Richard Rivera '74, for the Biosocial Curriculum Collective.

graphic characteristics. Community medicine is the delivery of comprehensive preventive, therapeutic, and rehabilitative outpatient services to individuals and families of a community. A community physician practices medicine based on an understanding of that community acquired from participation in community life and academic training in the socio-cultural, economic, and biological aspects of health and disease. Conceptually, the practice of the community physician can be seen as an extended form of family medicine. S/he will be the first and usually only source of treatment for the complaints not requiring a specialist's attention and/or hospitalization.

Following are some of the characteristics and qualities of the community physician:

The community physician must be willing and qualified to take responsibility for the individual's and the community's health.

Physicians are now trained to stand on the sidelines and watch, while misunderstanding, ignorance, and neglect undermine the health of their patients. Today, the emphasis in medical education is placed upon training to care for the acutely ill patient while environmental, social, cultural, and economic factors that influence people's health are essentially ignored. The community physician will be trained in a fashion that integrates an understanding of medicine with an understanding of people and their communities. Ideally, the community physician will then be able to deal with health at the community level as well as at the individual level. This training will be the basis for the community physician to expand his/her responsibility to the level of the community, and, thereby, attempt to affect the nonbiological causes of disease.

The community physician must understand the importance of participation in community life as a member of the community in order to effect change aimed at improving the community's health.

Physicians today often come from socio-economic backgrounds that differ greatly from those of their patients; very often, they practice away from their own communities. In urban areas they almost always serve a population they do not understand and in whose community life they do not participate. Since the community physician and his/her family will live in the community in which s/he practices, there will be a strong incentive to insure a healthy community environment. Since a large part of the community physician's training will include social, political, and economic analysis of the community, the community physician will have both the incentive and the basic expertise to effect necessary change. Ideally, the community physician would share the characteristics of the community residents.

The community physician must have a strong scientific background, a working understanding of the social and behavioral sciences, and clearly understand his/her limitations.

Since the community physician will be a specialist in outpatient medicine, s/he must learn to utilize the inpatient specialist to insure that patients receive the best possible inpatient care. Because the community physician will have only a broad background in the social and behavioral sciences, s/he must also recognize his/her limitations in these areas.

The community physician must learn to assume responsibility within a health care team.

The health care team is essential for the provision of complete outpatient services, emergency care, and preventive, social and rehabilitative services. The health care team, by providing these services, will free internists, pediatricians, obstetricians and surgeons to concentrate on their areas of specialization, i.e. the delivery of inpatient services. These latter specialists will be freed of the responsibility of providing services for which they were inadequately trained.

The community physician will shift the interface between the primary care physician and other medical and surgical specialists.

Currently, the generalist's responsibility includes inpatient care. Although the complexity of this type of care is staggering, only one year of post-graduate training is required for a physician to assume this responsibility. The ability of general practitioners to provide high-quality inpatient care is correctly being questioned. On the other hand, traditional medical and surgical specialists do not have the breadth of training or expertise to practice high-quality community medicine. In the interest of quality care, the interface between the primary care community physician and the inpatient specialist should be shifted from within the hospital to the hospital door.

Thus the community physician will have the fundamental outpatient skills of the internist, pediatrician, obstetrician and surgeon; extensive training in social, community and preventive medicine at the undergraduate and post-graduate levels; some undergraduate experience in the inpatient setting, in addition to an intensive three-year residency in community medicine. S/he will follow hospitalized patients primarily to offer advice to the patient and specialty team in light of his/her knowledge of the patient's life situation and to provide recommended follow-up care. This will insure maximum continuity without sacrificing quality of care.

Characteristics of The Program in Biosocial Medicine

The discussion up to now has concerned the goals of a program in biosocial medicine and the need for attempting such an innovation. Given our expectations, the following sections describe the essential characteristics of this program and its curriculum.

The Program in Biosocial Medicine should have separate administrative status

The Program represents a separate track of medical education, and, in this regard, is similar to the Harvard-M.I.T. Program in Health Sciences and Technology. Therefore, the major responsibility for designing, implementing, and discharging the structure and day-to-day workings of the Program should lie with an administrative board composed of officers, faculty, students, and consumer/community members who are committed to its goals.

Admission to the Program should be determined by a committee, similar in composition to the administrative board and based on appropriate criteria

Dr. Daniel H. Funkenstein, associate professor of psychiatry and director of research in medical education at Harvard Medical School, has been conducting psychological testing of Harvard medical students at matriculation and at graduation for 16 years. The data provides, among other things, an accurate picture of how the attitudes, preparation, and career preferences have varied over this time period. The percent of the first-year student body, which can be classified as biosocially oriented, has decreased, having reached a peak of some 40% in 1968. This biosocial category consists of "students whose career choices included a large social component, in addition to the biological one," i.e. future "psychiatrists, public health physicians concerned with the delivery of medical care, and family physicians who expect to deliver primary medical care not only by diagnosing and treating the biological problems of patients, but also by paying considerable attention to the emotional, social and family aspects of the individual patient's illness." The other two general groupings contain students interested in bioscientific or biomedical engineering careers. The class of 1977, just entered, continues the downward trend of students indicating a preference for delivering some form of primary care. The 28% of the class grouped as biosocial in career goals is composed of more than half of the women and less than 10% of the men at matriculation. If previous experience remains typical, many of these first year biosocial students upon graduation will begin their careers in medical disciplines more consonant with their bioscientific medical education. In comparison, the number of bioscientific students who shift to a biosocial career is negligible.

The dramatic increase in the size of the applicant pool has enabled the Admissions Committee to be exquisitely selective for high grade point average, high MCAT scores, and interest in bioscientific medicine. More and more of the successful applicants are bioscientists, and those interested in biosocial careers find that the exclusive and rigorous biological science approach to medicine leaves one unprepared for many careers involving significant interpersonal contact.

For the Program in Biosocial Medicine, new admissions criteria must be developed to select the student who has demonstrated exceptional academic ability and a fundamental understanding of modern biological science. Prerequisites in the social and behavioral sciences, at least at survey course level, would be appropriate. The applicant must demonstrate particular commitment and ability to develop a career in some aspect of biosocial medicine; indeed, some manner of independent study or community service might become a requirement. The admissions committee must recognize that students from medically disenfranchised regions become the best possible physicians to return and work within their communities. Finally, provisions must be available for students to transfer from one track to another, subject to the appropriate admissions committee approval.

The teaching should present medicine as an art and a science, with full integration of biological, social and behavioral sciences to provide a realistic framework for the study of health and disease.

In keeping with the goal of training physicians for primary care, emphasis would be placed on preventive and clinical medicine. It is essential to provide early patient exposure in clinical and community settings in order to develop interpersonal skills, social awareness, and to provide opportunities to learn within a context of service to people.

Curricular Content

The Biological Sciences

Traditionally, the biological sciences (Cell and Human Biology) have been known as "preclinical" subjects, and taught as a 1½ — 2 year block prior to clinical experience. Since the Biosocial Curriculum will provide early and continuing student involvement in clinical medicine, the term "preclinical" will become meaningless. Instead of the sudden change from basic didactic science to daily responsibilities for patient care in the clerkships, the transition to full-time clinical work will represent a natural intensification in the continuum of clinical training. This concept is described graphically in Figure I.

This approach to medical education requires that Cell and Human Biology courses be presented in conjunction with clinical experiences and with full integration of social and behavioral sciences. According to Dr. David Freiman, Chairman of Harvard's Curriculum Committee, in the June 7, 1973 issue of the *New England Journal of Medicine:*

Such programs do not require any less attention to basic and clinical science but can encourage presentation of material in a context more in keeping with the student's interest and designed to maintain motivation more effectively.

Integration of behavioral and social science material in the period traditionally reserved for biological science alone will necessitate extending the time devoted to this part of the curriculum, rather than reducing the amount of biological science material or the quality of its presentation, as some have feared.

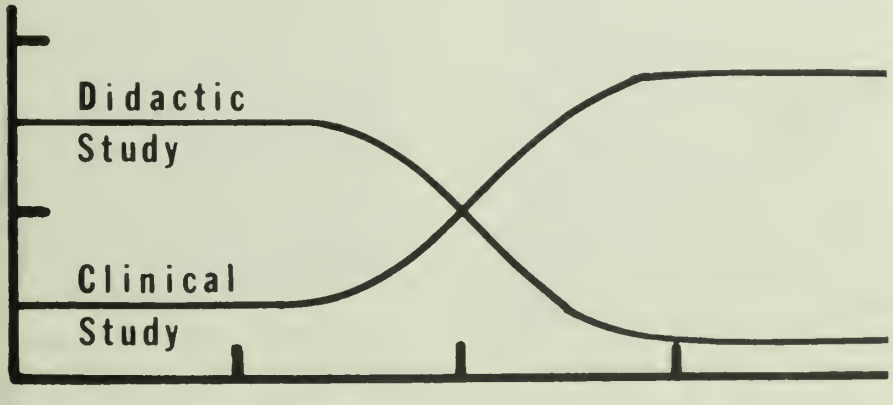
It is especially critical to the teaching of the biological sciences that no area of the Biosocial Curriculum be developed in isolation from the others. Considerable interdisciplinary cooperation will be essential, and traditional departmental responsibilities may have to be modified in order to deal with overlapping areas.

The Behavioral Sciences

A curriculum in biosocial medicine oriented toward primary care and community medicine will necessarily include a substantial offering in behavioral science. The interpersonal nature of primary care and the large proportion of psychosomatic and emotional complaints seen in practice, require an education that provides adequate exposure to the psycho-social aspects of patient care and the emotional side of physical illness. The effectiveness of future specialists in community and preventive medicine will depend upon their ability to understand the roots of major social problems and to apply principles of social psychology. Conversely, future specialists in community mental health will benefit by basing their psychiatric training on a foundation of primary and community medicine.

Since the Biosocial Curriculum will emphasize patient-centered medicine, the teaching of behavioral science must be related to patient care in a practical way. Basic information about the emotional and psychological make-up of human beings, as well as the socio-cultural, developmental, and biological determinants of personality and behavior must be maximally integrated within a general medical context. Since some change of behavior is usually involved in biological and social dysfunction, behavioral science offers an integrative medium to draw together the biological and social components of illness and health. Behavioral science instruction must be adequate and continuous through the full medical training period.

Figure 1



The teaching must be done by people with expertise and experience in applying their discipline to medical problem-solving and/or patient care. To reflect the many dimensions of human behavior, a variety of teaching approaches should be employed, including the descriptive, biological, dynamic, and social. As much as possible, conformity to the scientific method should characterize the material presented. Students should be encouraged to participate in planning, teaching, and evaluating the educational experience. Self-instructional media, small group teaching, and study projects should replace the deadening didactic approach, in order to promote comprehension and self-directed learning habits.

Social Medicine

The physician sharing responsibility for the health of a population must have a solid understanding of the numerous social factors that impair health and foster disease. S/he should be able to assess the health and health needs of a community, and to evaluate the quality and impact of health services. S/he should be familiar with the elements of administration and financing of a health care facility and must appreciate the perspectives of the consumer-community resident. In addition, this type of physician must understand the place and importance of political intervention as a means to promote human welfare.

A curriculum in biosocial medicine should provide rigorous introduction to the essentials of public health, and the fields of sociology, government, law, and economics as they relate to medicine. The introduction of demography, cross-cultural psychiatry, and medical anthropology will help the student to appreciate the tremendous impact of class and cultural barriers in the delivery of health care. Electives in each of these fields should be offered in order that the future researcher in social medicine, the future psychiatrist, and

the future specialist in community medicine can develop in depth some aspect of their training at an early stage.

The teaching of medicine as a social science will require a variety of approaches. It is recognized that optimal learning may occur with many different settings and experiences, and depends to a great extent on the individual's life history and motivation. Wherever possible, individual study and investigation will be encouraged. Since many students in the Biosocial Curriculum will have had extensive training in the social sciences, a number of advanced entry points to this segment of the curriculum must be available. This requires that a variety of elective courses be made available to students, not only at the medical school, but also at the university, in work-experience settings, and in the community.

Community Medicine

As planner, administrator, and/or practitioner of community medicine, the physician's efforts are directed toward improving the health of the community as a whole. This requires the physician to function not only in direct delivery of medical services, but also in health education, in identification of community health needs and their social determinants, in planning of appropriate services on a large scale, and in the political activity necessary to insure that services are implemented and community needs are met. Training for these areas can only be effective in the community setting, with community participation, in a context of service to people.

Training in community medicine should provide the student-physician with experience in the preventive, cooperative, and participatory elements of health care delivery, along with a sound introduction to public health and social medicine. Training in the cooperative and participatory aspects of community medicine should allow the future physician to (1) develop confidence in community clinical settings by early, gradual and continuing exposure to patients in community health centers; (2) learn how to work with representatives of the community group; (3) develop interpersonal and counseling skills, and gain familiarity with fundamentals of family medicine; (4) learn how to interact with co-workers in the treatment of patients, thereby gaining appreciation of the roles of associated health disciplines; (5) acquire a knowledge of the health care system from the consumer's point of view; (6) become familiar with appropriate health and social services in the community and how to use them effectively for the patients; and (7) gain experience in community health education by designing and implementing projects in disease prevention and consumer education.

The Inpatient and Outpatient Clerkships

The training which a student in the program receives in a teaching hospital setting must be oriented in two ways. First, the clerkships must be designed to impart to the student the diagnostic and clinical skills that form the foundation of any physician's training. Since many of these skills are best learned in the inpatient setting, the current clerkships in medicine, surgery, and pediatrics will be retained essentially unchanged. The clerkship in obstetrics and gynecology will be retained with changes only in the form of additions to insure that students acquire a solid background in this area. Other required clerkships will be designed to insure that community physicians become well-versed in the management of chronic illness, minor surgery, orthopedics, adult and pediatric infectious diseases, emergency medicine, and clinical and laboratory diagnostic skills. These subjects will be taught from the perspective of outpatient and first-contact care. Second, the student will analyze the teaching hospital and learn to understand it as a resource to be utilized for providing secondary and tertiary care for his/her patients. Also, by understanding the referral center and the fundamentals of inpatient care, the student will learn to function effectively as the patient's advocate in the secondary and tertiary care system and provide recommended follow-up care.

A consideration of the student and his/her education will underlie the design of all clerkships. The objective of each clerkship will be clearly spelled out and an effort will be made to insure that it is fulfilled. The student will know exactly what s/he is to learn. A required and recommended reading list will be provided as will time for reading.

Elective Time

By now it should be obvious that more courses and other educational experiences are included in the Biosocial Curriculum than occur in the present Harvard Medical School curriculum. Time saved by course integration and reduction of repetition in some areas of instruction will not compensate for the increase in required course work. The necessary solution is reduction in elective time, by perhaps four to eight months. It must be remembered, however, that the Biosocial Curriculum itself is an elective; by applying and being admitted to the Biosocial Program, a student is making a selection of elective courses in the behavioral, social and public health aspects of medicine.

Evaluation of the Curriculum

The preceding plan for medical education, while not totally original with us, is novel enough that it is essentially untested. Thus, no matter how desirable the goals of the program, success is not guaranteed. The method of evaluating the program, by persons within and outside the Biosocial Curriculum, should be both well designed and on-going.

There are numerous ways to evaluate such a program, and the viewpoints of

the students, the graduates, faculty and certainly the consumers must be considered. All too often the long time-lag between matriculation and practice has restricted early evaluation of changes in medical curricula, or has prompted evaluation based on data (e.g., National Board scores) which ignore many other important aspects of medical education. Therefore, though we recognize the present lack of appropriate models for evaluation, we are convinced of the need to establish an effective system of data collection, analysis, and feedback control in this educational experiment.

Conclusions

This Program in Biosocial Medicine has many implications for medical education and for medicine as a whole. For medical education, adoption of such a curriculum will mean a partial reorientation. The need for increasing emphasis on health care delivery does not imply reduced emphasis on training for biomedical research, but rather suggests that medicine should encompass both, since ultimately they complement each other. Implementation and success of programs in biosocial medicine and primary care will also indicate a growing awareness of wider social obligations by the medical schools and, perhaps, the beginning of a rapprochement between the consumer and the institutions that determine which medical services are available.

In addition, adoption of separate track programs in biosocial medicine will mark the beginning of a long-overdue diversification in medicine. Selection and admissions politics have made the medical profession what David Rogers calls, "monochromatic." Biosocial curricula for students of different backgrounds and interests will lead to the production of a variety of physician types — an innovation that is much needed in our diversified society.

Biosocial medical education will have other wide-ranging effects on the medical profession. With the training of increasing numbers of primary care and community physicians, fewer traditional medical and surgical specialists will be needed to provide ambulatory care. A greater proportion of the medical profession devoted to direct delivery of preventive and outpatient services will contribute to solving the problems of cost and access for many communities. Inefficient patterns of training and utilization of traditional specialists will be altered and the quality of medical care on the whole will improve.

Epilogue

Early in 1973, Third World students at HMS/HSDM approached Dean Ebert with several proposals. A major point concerned Harvard's commitment to the education of primary care physicians; the students strongly advocated the establishment of a separate curriculum in biosocial medicine. Dr. Ebert agreed to appoint a Task Force to ". . . make a conscious attempt to look at the educational requirements for the training of primary physicians." With the assistance of Curriculum Committee Chairman Dr. David Freiman, Dean Ebert appointed Dr. Leon Eisenberg, Chief of Psychiatry at the MGH, as Chairperson of the Task Force on a Biosocial Curriculum. By April 1973, about twenty faculty members and students were named to the Task Force. The following people continue to work on this project;

Paul Applebaum '76
A. Clifford Barger '43A
Harold Bursztajn '76
Joseph Dorsey '64
Leon Eisenberg M.D.
Daniel Funkenstein M.D.
Robert Funkhouser '48
Mary Howell M.D.
Denice Aguirre Johnston '76
Derek Kerr '75
George Lamb M.D.
Phillip Pittman '76
Alvin Poussaint M.D.
Reed Pyeritz '75
Sylvestre Quevedo '75
Julius Richmond M.D.
Jaime Rivera '76
Richard Rivera '74
John Stoeckle '47

After six meetings, some consenus on the need for, the goals of, and the general structure of the Program in Biosocial Medicine has been reached. Subcommittees of the Task Force have been set up to establish structural elements of the curriculum.

A lengthy and detailed proposal, embodying the ideas discussed above, has been prepared by the authors for Task Force deliberation.* This proposal will be given wide circulation in the coming months and will hopefully generate both support and constructive criticism. Readers of the *Bulletin* are urged to communicate their thoughts on this article to the authors, any other members of the Task Force, or the *Bulletin*.

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2. Funkenstein, Daniel H., "Medical Students, Medical Schools and Society During Three Eras", *Psychosocial Aspects of Medical Training*, Coombs and Vincent (eds.) Charles C. Thomas Co., Springfield, 1971.
3. Rogers, David E., "Health Care and the Academic Medical Center", *Pharos*, April, 1973.
4. White, Kerr L., "Life and Death and Medicine", *Scientific American*, September, 1973.

* Copies of this proposal can be obtained by writing to:

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